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ABSTRACT

Following an argument for improving the quality of public education to further the nation's economic growth, current educational deficiencies are analyzed and an action plan presented. Methods for implementing the following recommendations are outlined: (1) governors, state legislators, boards of education, educators, and business leaders should collaborate to develop and promptly put into effect plans for improving education in the public schools; (2) broader and more effective partnerships between educators and leaders in business, labor, science, and technology should be created for improving education statewide and locally; (3) resources essential for improving the schools should be marshalled; (4) teachers should be more highly regarded and the profession upgraded; (5) the academic experience should be intensified and made more productive, especially through firm and demanding requirements; (6) teaching and student achievement should be objectively evaluated; (7) principals' leadership and school management should be improved; (8) programs should be expanded and participation encouraged for students whose needs are presently not addressed. Various encouraging signs are cited as promising success in achieving a higher quality of education for all in addition to greater equality of educational opportunity. A list of redefined and upgraded basic skills and competencies for productive employment is appended. (MJL)

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ACTION FOR EXCELLENCE

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Task Force on Education for Economic Growth

Education Commission of the States

"Nothing matters more — nothing. Education is the public enterprise in our country that is closest to people's hearts — and most important to their lives. And education is the enterprise that is crucial to success in everything we attempt as a nation.

"We have heard now from many directions about the problems of our schools. We have had an abundance of research, a plentiful supply of analysis and an impressive piling up of reports. Public concern is rising. What is needed now is action: action for excellence."

Governor James B. Hunt, Jr.
to the Task Force on Education for Economic Growth

Quotations appearing throughout the text are excerpted from the ***Transcript of Proceedings,*** Education Commission of the States, Task Force on Education for Economic Growth, Washington, D.C., Saturday, February 26, 1983.

ACTION FOR EXCELLENCE

A Comprehensive Plan to Improve Our Nation's Schools

from

Task Force on Education for Economic Growth

Education Commission of the States

June 1983

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FOREWORD:

A CONVICTION THAT A REAL EMERGENCY IS UPON US

This action plan from the National Task Force on Education for Economic Growth differs from other national commission reports in several important ways:

■ **It is put forth with an unusual sense of urgency.** There are few national efforts that can legitimately be called crucial to our national survival. Improving education in America — improving it sufficiently and improving it now — is such an effort. Our purpose is to reach as many citizens as possible and to persuade them to act. The facts on education and achievement in American have recently been gathered and presented by many different groups. What is needed now is to act on those facts.

■ **It calls for action by the states and by local communities.** We acknowledge the importance of a strong Federal commitment to education — and we believe that commitment must be backed by sufficient resources. In this report, however, we have chosen to focus on action at the state and local level, and to call for new commitment and new action from the states and communities of America. We do so because it is here that the chief responsibility for education lies. Education for economic growth is indeed a national challenge, and it justifies national leadership and a national response. But important national commitments, in our judgment, do not only trickle down; they also bubble up.

■ **This report concentrates on the nation's public schools and on the years from kindergarten through twelfth grade.** Our national system includes much more: the private schools, our colleges and universities, proprietary job-training schools and corporate training programs, to name only a few. We believe, however, that the public schools are the key component of the system, and that clarity is gained by focussing our deliberations and our recommendations.

■ **This report calls for new alliances among educators, school systems and many other groups in America to create a new ethic of excellence in public education.** We believe especially that businesses, in their role as employers, should be much more deeply involved in the process of setting goals for education in America and in helping our schools to reach those goals. And we believe that legislators, labor leaders, parents, and institutions of higher learning, among others, should be far more involved with the public schools than they are at present.

■ **This report calls not for quick fixes, but for deep and lasting change.** Much of what we recommend is ambitious and will be politically demanding, for it involves fundamental changes in the priority we Americans put on education; changes in the way we run our schools; changes in the ways that we train, recruit and pay teachers and administrators, and changes in the very goals we set for public education in America.

■ **Finally, this report represents the midpoint — not the end — of our work.** Rather than disband with the publication of our report, the Task Force plans to remain busy. We will actively promote efforts to put this action plan into effect. We will use our resources and our personal energies to drive home the need for better education in the cause of a more prosperous and productive nation. And we will establish a clearinghouse of information and ideas for states and communities working to improve their schools.

The National Task Force on Education for Economic Growth comprises a wide range of leaders: governors, legislators, corporate chief executives, state and local school board members, educators, leaders of labor, the scientific community and many others. They are a diverse and occasionally contentious group, representing various interests and constituencies. But over several months of deliberations, these leaders from many different enterprises have been united by three strong, shared convictions: a conviction that a real emergency is upon us; a conviction that we must *act* now, individually and together; and a passionate, optimistic conviction that action, soon enough and in the right directions, can succeed.

We will be successful because of the good work that is already being done by dedicated people and because of the overwhelming power of our people to act to improve our nation's future.

James B. Hunt, Jr.
Governor of North Carolina
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Pierre S. du Pont, IV
Governor of Delaware
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Frank T. Cary
Chairman of the Executive Committee,
IBM Corporation
Co-Chairman

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EXECUTIVE SUMMARY:

THE ACTION PLAN

Convinced that continued progress in American education is vital to our national survival, the **Task Force on Education for Economic Growth** has prepared an action plan that outlines the new skills students will need to meet the demands of a rapidly changing workplace, summarizes the problems we face in revamping our educational system, makes eight major recommendations for action, and follows each recommendation with steps that various groups can take to improve education. The outlook is bright: great as some of the difficulties confronting education may be, our assets are greater still.

The action plan marks the midpoint in the work of the Task Force, a partnership of government, business, labor and education leaders who will continue their efforts to promote lasting change in education over the next year.

THE CHALLENGE: New Skills for a New Age

Technological change and global competition make it imperative to equip students in public schools with skills that go beyond the "basics." For productive participation in a society that depends ever more heavily on technology, students will need more than minimum competence in reading, writing, mathematics, science, reasoning, the use of computers, and other areas. Mobilizing the education system to teach new skills, so that new generations reach the high general level of education on which sustained economic growth depends, will require new partnerships among all those who have a stake in education and economic growth. The challenge is not simply to better educate our elite, but to raise both the floor and ceiling of achievement in America.

THE PROBLEM: Educational Deficits and Blurred Goals

Education for economic growth demands progress on many fronts. Students need to improve their performance, particularly their mastery of higher order skills. Relieving the shortage of teachers at the point where quality and quantity intersect may require new strategies. So may strengthening the curriculum and improving the management of schools so principals can concentrate on academic matters. Inhibiting progress is the lack of clear consensus about how to improve education, especially since some prevailing policies (like lowered standards for college entrance and lessened emphasis on homework) work against excellence in education.

THE RESPONSE: Recommendations of the Task Force

ACTION RECOMMENDATION 1

Develop — and put into effect as promptly as possible — state plans for improving education in the public schools from kindergarten through grade 12.

- Led by the governor, each state should develop a state plan for education and economic growth.
- Each governor should appoint a broadly inclusive state task force on education for economic growth.
- Each school district should develop its own plan.

ACTION RECOMMENDATION 2

Create broader and more effective partnerships for improving education in the states and communities of the nation.

- Business leaders, labor leaders, and members of the professions should become more active in education.
- Business leaders should establish partnerships with schools.
- Governors, legislators, chief state school officers, state and local boards of education, and leaders in higher education should establish partnerships of their own.

ACTION RECOMMENDATION 3

Marshal the resources which are essential for improving the public schools.

- School systems should enrich academic programs and improve management to make the best possible use of resources.
- States and communities should invest more financial, human and institutional resources in education.
- The federal government should continue to support education.

ACTION RECOMMENDATION 4

Express a new and higher regard for teachers.

- States and school districts — with full participation by teachers — should dramatically improve methods for recruiting, training, and paying teachers.
- States should create "career ladders" for teachers.
- States, communities, the media and the business community should devise new ways to honor teachers.

ACTION RECOMMENDATION 5

Make the academic experience more intense and more productive.

- States and school systems should establish firm, explicit, and demanding requirements

concerning discipline, attendance, homework, grades, and other essentials of effective schooling.

- States and school systems should strengthen the public school curriculum.
- States should increase the duration and the intensity of academic learning.

ACTION RECOMMENDATION 6

Provide quality assurance in education.

- Boards of education and higher education should cooperate with teachers and administrators on systems for measuring the effectiveness of teachers and rewarding outstanding performance.
- States, with full cooperation by teachers, should improve the process for certifying teachers and administrators and make it possible for qualified outsiders to serve in the schools.
- States should examine and tighten procedures for deciding which teachers to retain and which to dismiss.
- Student progress should be measured through periodic tests of general achievement and specific skills; promotion from grade to grade should be based on mastery, not age.
- States and communities should identify clearly the skills they expect the schools to impart.
- Colleges and universities should raise their entrance requirements.

ACTION RECOMMENDATION 7

Improve leadership and management in the schools.

- Principals should be squarely in charge of educational quality.
- Pay for principals should relate to responsibilities and effectiveness.
- States should set higher standards for recruiting, training and monitoring the performance of principals.
- Schools should use more effective management techniques.

ACTION RECOMMENDATION 8

Serve better those students who are now unserved or underserved.

States and school districts should increase the participation of young women and minorities in courses where they are under-represented.

- States should continue to develop equitable finance measures to insure that education resources are distributed fairly.
- States and school systems should identify and challenge academically gifted students.
- States, school systems, principals, teachers, and parents should work to reduce student absences and failures to finish school.
- States and school systems should specifically include handicapped students in programs for education and economic growth.

THE OUTLOOK: Can We Succeed?

We can improve public education across the nation. Our resources are abundant. Our commitment to a broadly inclusive educational system has been demonstrated by the impressive reforms of the 1970s. And the substantial progress states and communities have already made in improving the quality of education is proof positive that we can indeed change education in deep and lasting ways. But the stakes are high, and our ultimate success will depend in large measure on our willingness to act. No task facing our nation matters more than to launch — now — the action plan set forth here.

CHAPTER 1. THE CHALLENGE:

EDUCATION FOR ECONOMIC GROWTH

"A GOOD STARTING POINT IS A DEFINITION OF THE SKILLS OUR CHILDREN NEED."

For most of our history, we Americans have been in love with change — with newness. Early in the nineteenth century Alexis de Tocqueville, in ***Democracy in America,*** described a chance encounter with an American sailor, who explained to the bemused Frenchman why it was unnecessary in America, to build sailing ships sturdy enough to last for decades. Progress in the art of ship-building is so swift and certain, the sailor said, that any ship, after only a brief time on the seas, is sure to be replaced by a newer, better vessel.

Tocqueville shrewdly sensed that this unlettered sailor, with his ebullient faith in progress, spoke for America. And surely Tocqueville was right: a cheerful belief in change and progress has been a marked trait of Americans through most of our history. We Americans, moreover, have not only believed progress to be inevitable, we have embraced it: for we have taken for granted that our country would always be in the very vanguard of change.

Today, however, our faith in change — and our faith in ourselves as the world's supreme innovators — is being shaken. Japan, West Germany and other relatively new industrial powers have challenged America's position on the leading edge of change and technical invention. In the seventies, productivity in manufacturing industries grew nearly four times as fast in Japan, and twice as fast in West Germany and France, as in the United States.

The possibility that other nations may outstrip us in inventiveness and productivity is suddenly troubling Americans. Communities all over the United States are depressingly familiar now with what the experts call ***technological,*** or ***structural,*** unemployment: joblessness that occurs because our workers, our factories and our techniques are suddenly obsolete. To many Americans, technological change today seems a dark and threatening force, rather than a bright confirmation of our national genius. Tocqueville's sailor welcomed change; many of our people today, however, are beginning to fear it.

Yet the conditions that concern us today — swiftly advancing technology; economic competition in a global arena; the sudden obsolescence of skills — will be even more intense tomorrow.

Highly skilled human capital has always been important to our economy. In the future it will be even more important. And in the future that is quickly emerging, not just people in scientific and technical occupations, but virtually all workers, will face new demands. Some of these new demands, in fact, are already clearly visible: in offices all over America, typewriters are being replaced by word processors — devices which increase productivity, but which also require new training and new skills. In the armed forces, sophisticated weapons systems require more sophisticated skills. In shops and warehouses across the country, work that once was unskilled and purely physical — lifting, moving and hauling — is increasingly performed today by mechanical devices and even more sophisticated systems. The porter's job of yesterday is the work of a lift operator today and will become the work of a computerized conveyor system operator tomorrow.

In one sense, the advance of technology in the workplace makes work easier by reducing physical demands. But inevitably the advance of technology makes other intellectual and psychological demands. Even those inventions that make calculations faster and easier — computers, for example — require a high degree of adaptability.

It is the thesis of this report that our future success as a nation — our national defense, our social stability and well-being and our national prosperity — will depend on our ability to improve education and training for millions of individual citizens. We must begin now, act now, change now, so that in the future our children will be able to meet the demands of a new era that is already upon us.

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"THE PURPOSE OF THIS TASK FORCE IS TO LINK EDUCATION TO THE ECONOMIC WELL-BEING OF OUR INDIVIDUAL STATES AND OUR NATION AS A WHOLE."

BROADENING THE DEFINITION OF "BASIC SKILLS"

This new era of advancing technological change and global competition will radically change our concept of ***basic skills*** — of the minimum necessary skills for a person's economic survival.

This kind of redefinition has happened before. Over the years, our concept of ***literacy,*** for example, has undergone considerable revision, as technology has advanced in America and as the demand for knowledge has increased in the workplace. In the nation's early days, to be literate meant simply to be able to write one's name. Later, literacy came to mean the ability to read and write. Today, to most of us, basic literacy implies the ability to read, write and compute — at a rudimentary level, to be sure: but at a level higher than was common among unskilled workers a century ago or even fifty years ago.

What is about to happen to today's concept of basic skills?

What we consider the basic skills today can be described fairly simply. In most states and communities that have established minimum competency requirements, "basic skills" are defined in minimal, rudimentary terms, as follows:

- First, the ability to comprehend literally a simple written passage
- Second, the ability to compute with whole numbers
- Third, the mastery of writing mechanics.

When state or local assessment projects test students for minimum competency it is these minimal skills that are examined. We expect our schools to impart much more than these basic skills; we demand that they impart no less.

If we match these minimal basic skills to today's spectrum of jobs, we find that:

■ **UNSKILLED JOBS** can be performed adequately by people with less than today's basic skills: simple hauling and janitorial work, for example.

■ **BASIC JOBS** require today's basics: employment, for example, as a clerk in a small, non-computerized store.

■ **"LEARNING-TO-LEARN" JOBS** demand that the worker possess not only basic skills, but be capable of acquiring new ones. Most factory and service-industry jobs in America today fall into this category. And it is here — in imparting the skills of analysis and problem-solving that constitute "learning-to-learn" skills — that our schools face their greatest need for improvement.

■ **PROFESSIONAL JOBS** require adaptability — "learning-to-learn" skills — and more sophisticated intellectual skills as well. Professionals, scientific programmers and analysts, and middle-to-upper-level corporate managers are examples.

The advance of technology will greatly affect job opportunities and job requirements. Jobs which offer upward mobility will increasingly be those which require the creative use of technology.

"We don't believe a high school graduate in 1985 will retire 35 years later from the same job for which he was hired — during that period he will need to be trained and retrained many times. Therefore, it is important for that graduate that the high schools give him the ability to learn and to acquire new skills."

The stiffening demands of advancing technology will almost certainly mean that real opportunity, real chances for upward mobility, will increasingly be reserved for those with "learning-to-learn" skills: not just the ability to read, write and compute at a minimal level, but more complex skills of problem solving, reasoning, conceptualizing and analyzing. *Increasingly, people who have only today's basic skills — or less than today's basics — will be consigned to economic stagnation.*

"THERE IS A CLEAR NEED FOR CLOSER RELATIONSHIPS BETWEEN BUSINESS, LABOR AND EDUCATION."

The implications for educational policy then, are clear: our commitment to democratic values, to free individual choice and to equality of opportunity forbid us to establish an educational caste system. We cannot deliberately educate some students for tomorrow's more demanding jobs and consign the rest to being left behind. Yet to continue business as usual to continue educating even a portion of our students only for today's basic skills, runs the risk of doing precisely that. As the economist Lester Thurow has put it, our economy "is not going to thrive unless there is a major effort to upgrade the American labor force from top to bottom."

So we face two imperatives:

■ **First, we must upgrade considerably our definition of basic skills.** Beginning *now*, our definition of basic skills must expand to include more of the skills that will be demanded in tomorrow's technologically-sophisticated workplace. In the future, for example, minimal basic competency may well include skills considerably broader than those we consider basic today:

■ Competency in reading, for example, may well include not only the ability to literally decipher a simple written passage, but other skills as well: the ability to analyze and summarize, for example, and the ability to interpret passages inferentially as well as literally.

■ Basic, minimal mathematical competency may well include, in the future, not just the ability to compute with whole numbers, but also more complicated computing and problem solving skills: the ability to use arithmetic computations in solving practical problems.

■ Competency in writing may well comprise not just the ability to write a sentence or paragraph, but the ability to gather and organize information coherently. (See Appendix, "Basic Skills and Competencies for Productive Employment").

■ **Second, beyond reworking our definition of basic skills, we must mobilize our educational system to teach those new skills.** We must launch an effort to transmit to all the nation's students higher levels of the skills required to function in tomorrow's workplace: levels sufficiently high to afford them choice and opportunity in tomorrow's economy.

In short, we must raise our expectations and our standards. We must improve the quality of instruction for all students — not just for an elite, but for all. We must raise both the floor and the ceiling of achievement in America, improving educational attainment for the most able students and for other students as well.

"IF THE BUSINESS COMMUNITY GETS MORE INVOLVED IN BOTH THE DESIGN AND THE DELIVERY OF EDUCATION, WE ARE GOING TO BECOME MORE COMPETITIVE AS AN ECONOMY."

EDUCATION AND GROWTH

We must accomplish these things because our children's individual well-being depends on it. And we must accomplish these things for another reason: because our national well-being depends on it. Our ability to compete in world markets, to defend ourselves militarily and to sustain vital programs of government will assuredly depend on a growing national economy.

It is our conviction that sustained economic growth is essential. And it is our judgment that a high general level of education is perhaps the most important key to economic growth. Common sense compels the conclusion, and observation confirms it, that for any nation, knowledge is power; that trained intelligence is a chief component of individual and national productivity, of a nation's capacity to innovate, and of its general economic health.

The fortunate economic position of the United States throughout much of its history can be attributed not only to the blessings of geography and to abundant natural resources. It is surely the result also of certain deliberate decisions: our decision, for example, to provide universal free public education; our decision to establish the land-grant colleges; our decision to pass a GI Bill of Rights in the forties and a National Defense Education Act in the late fifties; our decision to support university-based research with generous infusions of tax dollars. Such decisions to invest in education have paid rich dividends.

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Dr. Edward F. Denison of the Brookings Institution has estimated that technological, managerial and organizational improvements in production — improvements which themselves depend on educational attainment — were the greatest contributor to the nation's economic growth, measured in growth of national income per employee, between 1948 and 1973. "The next largest source," Dr. Denison has written, "was the increase in the amount of education that employed persons had received. Educational background decisively conditions both the types of work a person is able to perform and his proficiency in any particular occupation. It enhances skills of individuals within an occupation, permits beneficial shifts in occupational composition, and heightens a person's awareness of job opportunities and thereby the chances that he is employed where his marginal product is greatest." Any approach to increasing productivity in the United States, Dr. Denison maintains, must focus attention "on the quantity and quality of education of all types and at all levels."

The experience of other nations with education and economic progress dramatically supports this view. The Japanese government after World War II, for example, explicitly pursued a goal of universal high school education for Japan's young people: an innovation for that hierarchical society. In 1950, 43 percent of all 15-year olds were going on to high school; by 1975, 90 percent were; by 1980, 95 percent. Enrollments in nursery schools and kindergartens increased at the same time, until an overwhelming majority of Japanese pre-schoolers were attending such classes — where traditionally, children learn to read. ***The Japanese, in essence, adopted the American educational ethic — an ethic of universal education — and have pursued it with extraordinary efficiency.*** The results of this Japanese surge in educational effort and investment are visible and impressive today.

Japan's improvements in education, of course, correspond in time to Japan's postwar economic miracle — a correspondence which suggests a direct link between education and productivity.

It is important to understand, moreover, that the level of basic achievement in Japan is quite high. As Dr. Thomas P. Rohlen reports in his book, ***Japan's High Schools:*** "The great accomplishment of Japanese primary and secondary education lies not in its creation of a brilliant elite . . . but in its generation of such a high ***average*** level of capability."

The challenge to us in the United States, as we seek to educate for economic growth, will be to generate in our country such a high "average level of capability": a level high enough to keep us capable of competing intellectually — and thus capable of competing economically — in the future.

Not only parents, teachers and students, but all citizens have a stake in how effectively we meet the challenge to improve the quality of education in our public schools. For the quality of our schools will help determine whether our economy in the future grows vigorously or stagnates. And surely all citizens — single people, childless couples and the elderly, as well as families with school-age children — have a stake in our nation's economic health and growth: for these will determine how many jobs are available in the United States, and how adequate our resources will be for vital public services and a decent national standard of living. Because everyone stands to benefit, the consensus for education and economic growth should be truly national.

CHAPTER 2. THE PROBLEM:

EDUCATIONAL DEFICITS AND BLURRED GOALS

Can we educate future generations sufficiently well to assure steadily increasing productivity and economic growth?

It is the conviction of this Task Force that we can — but that we are not now doing so. We are not doing so because we face some serious deficiencies in our educational system and because we have reached no clear consensus about what must be done to improve education.

"It's time — not to leave education to the educators, job training to businesses, and unemployment worries to labor unions — but to bring all of these people together to design programs that are realisitic in an educational atmosphere and effective in an economic atmosphere.

"We must have everyone working together to design a curriculum that fits, that makes sense for economic education."

PROBLEMS IN STUDENT ACHIEVEMENT

The National Assessment of Educational Progress, which periodically surveys the knowledge and skills of high school students, found in one of its recent surveys that:

- Thirteen percent of our 17-year-old students could not perform reading tasks considered to be minimal for functional literacy
- Twenty-eight percent could not answer questions testing their literal comprehension of what they read
- Fifty-three percent could not write a letter correcting a billing error
- Only twenty-one percent could write a persuasive statement in 1974. By 1979, the percentage showing adequate competency on this test had dropped to fifteen percent
- When the assessment tested the students who had dropped out of school before reaching age 17, the percentages of poor performers were even higher
- According to the U.S. Office of Education, forty to fifty percent of all urban students have serious reading problems. Since minority students are concentrated in urban schools, and since it is estimated that by 1990 more than forty percent of urban students nationwide will be members of minorities, we face a special challenge here: to improve educational results among minority students so that they can increase their representation in the high-skill fields that will provide upward mobility in the future.

"...WE SIMPLY HAVE TO INVEST MORE IN HUMAN RESOURCES."

"COMMUNICATE WITH ONE ANOTHER TOWARD A COMMON GOAL."

Educational deficits in the specific fields most closely related to technological progress, mathematics and science, are especially disturbing. The United States today can still lay claim, narrowly, to technological leadership in the world — a fact which reflects our country's abundant supply of skilled scientists, technologists, engineers and technicians.

But our technological supremacy has eroded as other nations have expanded their own capacities. Our ability to compete is threatened, for example, by a shortage of skilled engineers and scientists -- and, perhaps more seriously, by a lack of general scientific and mathematical literacy: forms of literacy which will be essential if our citizens are to support a technologically advancing economy.

The small percentage of students in the United States who are planning to enter scientific and technical professions has remained roughly constant in recent years, and so have their achievement levels. But most students today end their encounters with science and mathematics early in high school. This declining exposure to technical subjects is a serious problem which threatens to become more serious as American workers face increasing technological demands:

- Between 1960 and 1977, the proportion of public high school students enrolled in science and mathematics courses declined; the proportion of students enrolled in science dropped from 60 to 48 percent
- Despite recent increases in mathematics and computer science enrollments, half of all high school graduates take no mathematics or science beyond the tenth grade
- Remedial mathematics enrollments at four-year colleges increased 72 percent between 1975 and 1980, while the number of students going to college increased only seven percent in the same period — a fact which suggests the inadequacy of high school mathematics and science preparation.

Our educational system, to be sure, has scored some important successes over the past two decades. According to the findings of the National Assessment of Educational Progress, there were improvements in basic skills among the lowest-performing 25 percent of students. Black students as a group, and many other historically disadvantaged students, showed actual improvements in their performance of basic tests of reading, writing and computing — which suggests that our efforts over the past two decades to improve educational opportunities for these young people have had real impact.

The fact remains, however, that overall performance in higher-order skills — inference, analysis, interpretation and problem-solving skills — declined in the seventies. And the largest drop-offs in achievement occurred in the most able students. This suggests that we may be regressing from the standard of literacy which was considered adequate 15 years ago at precisely the moment when global economic competition and technological change in the workplace are challenging us to upgrade our standards.

These educational deficits are hardly surprising when we reflect that among the world's industrialized nations, the United States appears to expect the least of its youth in terms of academic effort and achievement:

- While only 38 percent of American high school students take a one-year course in chemistry, all students in the Soviet Union complete four years of chemistry, including a full year of organic chemistry

- Approximately 95 percent of Japanese teenagers now graduate from high school, compared with 74 percent in the United States

- In most of the industrialized countries, the school year is considerably longer than in the United States — often 240 days or longer, compared to an average of 180 days in our country. School days are longer, exposure to core academic subjects is greater and time-on-task exceeds that in United States schools. As a result, after twelve years of schooling, students in other advanced nations may have the equivalent of four full years more schooling than American high school graduates — in a curriculum that is more demanding than the typical American school's course offerings.

"This is the time to examine the issues, to develop our ideas about what America needs to do, and then to work together as government leaders, as educators, as scientists, as labor leaders and as corporate leaders, to make things happen."

THE TEACHER GAP

Deficits in student performance are only one aspect of the quality problem in education. In fact, student performance problems are simply reflections of other, deeper difficulties.

Our nation is suffering a "teacher gap," for example — not necessarily a shortage in sheer numbers, but a shortage of qualified teachers in critical subjects:

- 26 percent of all teaching positions in mathematics, for example, are filled by teachers who are not certified, or only temporarily certified, to teach mathematics. And this pool of disqualification seems to be expanding; among newly-employed mathematics and science teachers in 1981, 50 percent were uncertified to teach these subjects
- A survey in 1981 revealed that 43 of 45 reporting states indicated a shortage of secondary-school mathematics teachers; 42 states reported a shortage of physics teachers
- Between 1971 and 1980, a survey of 600 colleges revealed a 64 percent decline in the number of secondary-school science teachers being prepared — and a 78 percent drop in the number of mathematics teachers
- 51 percent of elementary school teachers report that they received *no* undergraduate training in science
- And not only is there a shortage of qualified mathematics and science teachers; there is a shortage also of summer institute and college programs to upgrade their skills. The programs of the National Science Foundation to retrain teachers after college, which were widespread during the sixties, no longer exist
- Social progress, ironically, intensifies the difficulty. In former years, when women and minorities suffered greater job discrimination than today, teaching was often their major opportunity for work at a professional level. Today, however, job opportunities are broadening for women and minorities; teaching can no longer monopolize their talents.

It would be a mistake to blame this gap between our need for highly qualified teachers and our supply of them on the teaching profession. In fact, the problem has many causes. Perhaps the chief cause of the problem is the value that our society places upon elementary and secondary-school teaching: a value measured by what we pay our teachers. The average salary of beginning mathematics teachers with a bachelor's degree, for example, is only 60 percent of the beginning salary offered by private industry to bachelor's degree candidates in mathematics and statistics.

"It's easy for a group that is involved in modern technology and concerned about math and science to say, 'We have just got to have more engineers and scientists and mathematicians.' And indeed we do. But we have to be concerned about how we educate and train *ALL* of the people in this country. That is the real key to America's future, what we do with all of our people."

Teachers' salaries generally remain low in comparison to pay scales in other occupations. In Montgomery County, Maryland, for example — a prosperous Washington suburb whose school system is considered generally excellent — a liquor-store clerk with a high-school diploma and two years' experience earns $12,479. A schoolteacher, however, with a college degree, special training in teaching, and the same amount of experience, earns less: only $12,323.

In every state, moreover, teachers are paid according to rigid salary schedules based primarily on training and years of experience. No state, to our knowledge, has a system for rewarding exceptional teachers for their superior performance. The idea of extraordinary rewards for extraordinary performance, in fact — an idea which is accepted in virtually every other career field, public and private — does not apply in the field of public-school teaching. The system of tenure in most school systems also makes it difficult, if not impossible, to deal with the problem of ineffective or unmotivated teachers.

The differences between pay for a beginning teacher and pay for an experienced teacher are so small in most states, and are applied so gradually, that a powerful incentive is created for experienced teachers to leave the profession. Small wonder that 25 percent of teachers currently at work in the classroom have stated their intention to leave teaching in the near future!

Among those dedicated people who choose teaching — and who choose to remain in the profession — the lack of opportunity for in-service training is deeply discouraging. 40 percent of secondary-school science teachers have not attended a course or workshop in their subject area since they began teaching.

"WE HOPE TO BUILD THE KIND OF CONFIDENCE IN PUBLIC EDUCATION THAT IS A PREREQUISITE FOR ANY KIND OF PROGRESS IN IMPROVING IT."

Finally, the teaching profession is not attracting a sufficient proportion of the most able college students. For several years, future teachers have ranked near the bottom of all groups taking the Scholastic Aptitude Test for college admission. In 1982, S.A.T. scores for students preparing to be teachers were 80 points below the national average. This is a disturbing fact. But it is probably what we should expect, given the low levels of pay and esteem that we accord teachers in America.

NEEDED: CURRICULUM RENEWAL

More than a decade has passed since National Science Foundation funds — and the expertise of university scientists, mathematicians and engineers — were used to revitalize the nation's science curriculum. The teaching materials developed then are now increasingly obsolete; they do not take advantage of teaching with technology, for example, or rapid progress in electronics.

The original NSF materials were directed primarily toward the most able students. The challenge remains to interest more students — both those who will pursue scientific careers and the general student — in taking science and mathematics courses. Ten years ago, just over half the nation's high schools offered a course in physics — and only one student in every four or five took the course. As bad as this situation was, it has recently become worse: today only one in every five or six high school students takes physics.

We need a renewed curriculum. But we must take care to develop teaching materials aimed at attracting, motivating and establishing competency in every ability group. A concept of curriculum improvement that focuses on cognitive goals but ignores motivation is destined to fail.

"IF THE FIRST PURPOSE OF OUR SCHOOLS IS TO CREATE GOOD CITIZENS, THE SECOND PURPOSE IS TO CREATE PRODUCTIVE PEOPLE, CAPABLE OF LIVING IN PEACE AND ABLE TO ENJOY THE FRUITS OF THEIR LABORS."

Another priority related to curriculum improvement must be to increase instructional time in key academic subjects:

- The typical elementary school week comprises 25 instructional hours. During these 25 hours, only one hour of science is taught in many schools across the nation — and less than four hours of arithmetic

- In most industrialized nations by contrast, as we have mentioned, the amount of classroom time devoted to core academic subjects is several times greater than the time spent in our schools. Students in these countries are introduced earlier than our young people to reading, mathematics and science; they attend school longer each day and spend more days in school each year. Need we be surprised, then, that a gap is opening between achievement levels in the United States and those in Japan and Europe?

In many American schools, moreover, laboratories and instructional equipment are obsolete or unavailable, and good textbooks are in short supply. Sixty percent of science teachers have had their budgets for supplies and equipment cut in recent years at a time when sophisticated equipment is surely needed in our schools. And the proportion of educational budgets devoted to textbooks has been cut in half in the last 17 years — the same period in which test scores measuring student achievement have also fallen.

Finally, most American schools have only scratched the surface when it comes to integrating modern technology into instructional programs. The use of computers in schools is increasing; some states have launched effective leadership efforts in computer-assisted education. In a few states, videotape and other technical innovations are used creatively to extend the reach and effectiveness of teachers. But in most places, school systems have shown only spotty success in using technology to augment textbooks and other teaching materials or to extend the instructional reach of teachers.

"THE QUESTION OF WHETHER THE TIME AND ENERGY TO DEVELOP PARTNERSHIPS IS WORTH IT TO PUBLIC SCHOOLS OR TO THE BUSINESS COMMUNITY HAS BECOME MOOT. IT IS WORKING."

MANAGEMENT AND LEADERSHIP PROBLEMS

Building quality in education — attracting high-quality teachers, for example, and keeping them in the profession — will doubtless cost more money than we are now spending. But any call for additional resources in education must be accompanied by a clear commitment to getting better results from the money we spend. More effective management of the schools at every level would be a good place to begin.

Many school districts in recent years have made real progress in organizing their systems more efficiently, in establishing better teacher-student ratios and school sizes, and in monitoring student performance as one measure of instructional effectiveness. But there are obviously many districts where such efforts need to be renewed or improved.

In study after study, it has been shown that one key determinant of excellence in public schooling is the leadership of the individual school principal. In those schools where the principal is well-trained, highly motivated and zealously devoted to inspiring excellence among teachers and students, the effect is bracing — even in ghetto schools whose facilities are inadequate and whose students come from poor families. Yet in too many schools, principals spend too little time managing education and too much time managing everything else: buildings, grounds, paperwork and other efforts that are only indirectly related to teaching and learning.

THE COST OF THESE DEFICIENCIES

Seen in the abstract, these various deficiencies in student performance, teacher supply and quality, and in the management of instruction are bothersome enough. Seen in the context of our national economy and its needs, however, the deficits become alarming: alarming for their threat to individual lives and careers — and alarming for their potential cost to our national economy.

"IT HAS BECOME CLEAR TO US THAT OUR EDUCATIONAL SYSTEM IS GOING TO HAVE TO CHANGE."

"RESULTS CAN ONLY BE EXPECTED WHEN PEOPLE FROM BOTH BUSINESSES AND SCHOOLS TAKE THE TIME TO LEARN TO COMMUNICATE."

Those costs are being incurred today — and are likely to grow in the future as the gap between needed and available skills grows wider. Last year, the Center for Public Resources, a New York-based organization, surveyed educators and employers for their views on basic skills deficiencies among high school graduates entering the work force. The results revealed that there is a considerable gap between the perceptions of school officials and the perceptions of employers when it comes to the adequacy of education for employment. More than 75 percent of school officials and teachers assessed the majority of graduates entering the work force as "adequately prepared." A large majority of employers, however, were convinced that graduates entering jobs in their companies had basic skill deficiencies in a majority of job categories.

This wide perception gap suggests that employers and educators need to do a better job of communicating about what constitutes adequate educational preparation for work. It suggests, moreover, a potentially fruitful opportunity for creative collaboration: ***educational partnerships*** between businesses and schools, with an eye not only toward eliminating misunderstandings about education for work, but with the objective of improving skills and employability for millions of American young people.

Someone has pointed out that the United States no longer teaches the threeR's, but the six R's: remedial reading, remedial 'riting, and remedial 'rithmetic. This vast and expensive remedial enterprise continues beyond the twelfth grade, for 25 percent of all college mathematics courses are remedial. The efforts of business and industry to remedy the educational failures of our schools is expensive beyond counting, and the military spends tens of millions of dollars each year in developing the basic reading skills of military personnel. These costs are the costs of low educational productivity. It should be our long-range goal to end remedial courses wherever possible: to make them unnecessary — because our schools will have done their work effectively the first time.

"THERE IS NOTHING MORE REASSURING ABOUT OUR EDUCATIONAL SYSTEM THAN BEING IN A CLASSROOM AND SEEING THE INTEREST THAT ABIDES IN OUR YOUNG PEOPLE."

THE NECESSITY FOR CLEAR GOALS

Our greatest overall educational deficiency in the United States, however, may be one that is impossible to assess through achievement tests, and impossible to measure by the usual yardsticks for gauging the adequacy of our public commitment to education. ***This deficiency is our absence of clear, compelling and widely agreed-upon goals for improving educational performance.***

Many Americans from every sector of our national life are deeply concerned about the quality of education in America: teachers and other educators, business and labor leaders, governors and other public officials, parents and students themselves. Headlines about declining skills — and a recent series of cautionary reports about the state of education in the United States, including this one — dramatize this concern.

Yet despite this intense concern, it cannot yet be said that any clear consensus has developed about what we Americans must do to improve education. The "back to basics" movement has too often been motivated by nostalgia rather than a realistic concern for the future; and beyond this movement, no clear pattern of action is discernible across the nation that would bespeak even an implicit consensus.

In fact, it is a sad reality that for all our grumbling about the quality of education, many of our prevailing policies and actions in education contradict the goal of improving quality; they undercut, wittingly or unwittingly, our stated goals of educational excellence:

- College requirements for post-secondary preparation in math and science, for example, have actually been cut back in recent years — although there is some recent evidence of a reversal of this trend

- Although students who report doing the most homework score highest on national assessment tests — and those who report watching television and doing little homework score lower — explicit homework requirements and policies are a rarity in most school systems.

To sum up: we have expected too little of our schools over the past two decades, in terms of quality — and we have gotten too little. The result is that our schools are not doing an adequate job of education for today's requirements in the workplace, much less tomorrow's. If we are serious about economic growth in America — about improving productivity; about recapturing competitiveness in our basic industries and maintaining it in our newer industries; about guaranteeing to our children a decent standard of living and a rewarding quality of life, then we must get serious about improving education. And we must start now.

CHAPTER 3. THE RESPONSE:

AN ACTION PLAN TO IMPROVE THE SCHOOLS

In response to these problems, the Task Force has developed an Action Plan on Education for Economic Growth. The recommendations which comprise the plan are broad. They call for efforts by individuals and institutions — in various directions. Putting them into effect will require strenuous effort and some drastic changes from time-honored ways of doing things. But we believe that success is possible. And we believe, fervently and unanimously, that no challenge facing our nation matters more than making the changes we call for now.

THE ACTION PLAN

ACTION RECOMMENDATION 1

Develop — and put into effect as promptly as possible — plans for improving education in the public schools from kindergarten through grade 12

■ *Our chief recommendation* is that each governor, working in collaboration with the state's legislators, state and local boards of education, educators, business leaders and others, develop an action plan to improve education in the state's schools — in all grades. Each plan should acknowledge the central role of education in the state's future economic growth and in preparing citizens for jobs. It should set specific goals for educational improvement. It should suggest ways in which technology might be used to improve education. And each plan should establish clear timetables for achieving results and explicit methods for measuring progress.

■ Each governor, working in partnership with all the leaders and groups we have named above, should appoint a broadly inclusive ***State Task Force on Education for Economic Growth,*** with a threefold mission:

■ To create broad state and local understanding of the need for a well-educated work force and to create an understanding of the changing skills that are necessary for economic growth

■ To promote policies and actions to improve education that can be pursued by leaders in both the public and private sectors

■ To establish alliances among community, business, labor, government and education leaders to improve education on behalf of economic growth.

■ Finally, because local action is the key to success for any state plan, we recommend that every school district, in a broad process of consultation, develop a plan of its own for putting into effect at the local level a plan for improving education. Each district plan, like each state plan, should focus on education for jobs and growth and should set forth specific local objectives, timetables and methods for measuring progress in the local schools.

ACTION RECOMMENDATION 2

Create broader and more effective partnerships for improving education in the states and communities of the nation

■ We strongly recommend that leaders outside the traditional educational system — especially business leaders — take specific steps to help improve the schools. They, along with labor leaders and members of the scientific, engineering and technical professions, must become more active in public education. They must help marshal the resources needed to pay for quality education. They must communicate the skills that are needed in the workplace — and thus help educators define the standards that the schools should meet. They must share with school managers their expertise in planning, budgeting and management. And they should encourage their employees to take a more active role in helping improve the schools.

■ Specifically, we recommend that business leaders across the nation work actively to establish ***partnerships between businesses and schools:*** team teaching using teachers and specialists from industry, for example; customized job-training efforts between businesses and schools; the training of students and teachers in the use of equipment; courses actually taught in offices and factories; business-sponsored recognition for outstanding teachers and principals, and a host of other cooperative ventures.

■ We recommend also that governors, legislators, chief state school officers, state and local boards of education and leaders in higher education establish partnerships of their own to help improve public education. The states, for example, might profitably create regional programs for the academically gifted, regional in-service teacher-training programs and other innovations. Local boards of education might collaborate on enrichment programs for students and teachers.

ACTION RECOMMENDATION 3

Marshal the resources that are essential for improving the public schools.

■ ***Better use of existing resources*** must be the first priority in improving the public schools; how states and communities spend their education funds is as important as how much they have to spend. No consensus for increased investment in education can be built, in our judgment, unless citizens are convinced that their schools are sufficiently productive. The battle cry of the movement for educational reform cannot be, "More of the same!" And so our first recommendation on the subject of resources for education — a recommendation that is implicit throughout this action plan — is a simple one: that every school system and every school must enrich its academic programs and improve its management so that every education dollar now budgeted is better spent.

■ At the same time, however, states and communities across the nation do need to assign higher budget priority to ***improving*** education; they need to increase their investment of financial, human and institutional resources in new efforts to enhance education. Improving education will require new and better textbooks, equipment and facilities — and these cost money. Real improvements in education can be made only if citizens and their leaders are persuaded to invest sufficient funds and are reminded that better education cannot be bought with declining education budgets. The efforts called for elsewhere in this action plan represent our judgment about where new money for education might best be spent. Our recommendation, in sum, is this: more funds, from all sources, for education — but more money ***selectively invested*** in efforts that promote quality.

■ It is our strong conviction that the states and local communities must have the chief responsibility for supporting the schools and for making educational policy. But education is a national priority also; for decades, the federal government has played a role in giving special educational help to groups in special need; in helping guarantee access for the disadvantaged to education; in supporting student aid, research and development, and in helping meet the nation's critical labor needs. This is no time for the federal government to shirk these responsibilities, or to shrink suddenly from the issue of education as a national priority. The federal government's role, to be sure, is a supporting role. But that role is essential.

ACTION RECOMMENDATION 4

Express a new and higher regard for teachers and for the profession of teaching.

■ We recommend that every state and every local school district — with the fullest participation of teachers themselves — ***drastically improve their methods for recruiting, training and paying teachers.*** This improvement should begin with schedules of teacher pay that are competitive with pay in other jobs and professions. It should include scholarships and other financial incentives to attract the most able people into teaching. It should feature financial incentives for teachers, keyed to differing responsibilities and to filling critical needs in certain subject areas. And it must go on to create extraordinary rewards for extraordinary teachers: expanded pay and recognition for teachers, not just for reaching the upper levels of seniority, but for reaching the upper levels of competence and effectiveness as well.

■ We strongly recommend that each state ***create a "career ladder" for teachers*** that will help attract and keep outstanding teachers. There should be changing levels of responsibility, pay and status for teachers as they move through their careers. No good teacher should be forced to leave teaching and become an administrator as the only means of achieving higher pay and status in an educational career.

■ We recommend that the states, singly or in cooperation with one another, ***establish better preservice and inservice education programs for teachers,*** so that teachers can constantly enrich their academic knowledge and improve their skills. This will require a substantially restructured and renewed curriculum for teacher training, which would include the management and application of technology. Each state must upgrade the academic quality of the curriculum for teacher training so that entering teachers will be prepared to meet higher standards.

■ Finally, in addition to higher salaries, we recommend that the states and communities, the media and business leaders establish ***new forms of recognition*** to honor the contributions of teachers and to underscore publicly their crucial importance in our national life. We have in mind special scholarships, financial awards and other tributes which express the value we place upon teaching as a profession — and our appreciation for great teachers.

ACTION RECOMMENDATION 5

Make the academic experience more intense and more productive

■ We recommend that the states and local school systems establish ***firm, explicit and demanding requirements concerning discipline, attendance, homework, grades*** and other essentials of effective schooling, and that parents be enlisted in the education process in ways that are not now sufficiently widespread. We have in mind "contracts" between parents, students and schools to improve student performance — for example, programs that train parents in ways to help their children learn and study.

■ We urge the states and local school systems to launch energetic efforts to ***strengthen the curriculum*** from kindergarten through high school. If the needs of our society and of industry for skilled and well-educated people are to be met, courses not only in mathematics and science, but in all disciplines, must be enlivened and improved. The goal should be both richer substance and greater motivational power: to eliminate "soft," non-essential courses; to involve students more enthusiastically in learning, and to encourage mastery of skills beyond the basics — problem-solving, analysis, interpretation and persuasive writing, for example.

■ Finally, every state should ***increase both the duration and the intensity of academic learning time*** in its schools:

- Where nonessential and peripheral courses have invaded the curriculum, school systems must have the courage to put new emphasis on core academic subjects and must devote more time to them. Students should be introduced earlier to such critical subjects as science, and they should spend more time exploring them. Class sizes must be limited. Teachers must be freed from trivial demands and allowed to teach. Schools should examine each school year, especially the twelfth grade year, to ensure that time is not wasted. And existing learning time should be made more effective in other ways as well: through the use of student "mentors," for example, through the use of high quality and up to date textbooks and through the use of technologies in education — computers, film and videotape, for example — in ways that extend the reach of teachers.
- Using the existing school year and the existing school day to the fullest must be emphasized first. But the states and local school systems should also consider lengthening the school year and the school day and extending teachers' contracts. Learning time should be increased, moreover, by establishing a wider range of learning opportunities beyond the normal school day and school year: summer institutes and after-school enrichment programs sponsored by business, for example.

ACTION RECOMMENDATION 6

Provide quality assurance in education

■ We recommend that boards of education and higher education in each state — in cooperation with teachers and school administrators — put in place, as soon as possible, systems for fairly and objectively ***measuring the effectiveness of teachers and rewarding outstanding performance.***

■ We recommend that the states, again with the fullest participation by teachers, ***improve the process by which teachers and administrators are certified*** to teach and manage in the schools. They must establish higher standards to ensure that only individuals who are competent and well-qualified are licensed to teach and manage in the schools. We further recommend that state certification rules be sufficiently flexible to encourage service in the public schools by qualified persons from business, industry, the scientific and technical communities and institutions of higher learning.

■ We strongly recommend that the states examine and tighten their procedures for selecting not only those who come into teaching, but also those who ultimately stay. Teachers who are having difficulty teaching — whether because of teaching style, subject-matter expertise, discipline or other problems — should be given all possible encouragement and help to improve. But if, after all reasonable help has been provided, a teacher cannot or will not teach effectively, that individual does not belong in the profession. Ineffective teachers — those who fall short repeatedly in fair and objective evaluations — should, in due course and with due process, be dismissed.

■ We recommend that fair and effective programs be established to monitor student progress through ***periodic testing of general achievement and specific skills.*** Because the purpose of such testing should be to identify problems and deficiencies promptly, every school system should link its testing program to a carefully-designed program of remediation and enrichment for students who need special help. We recommend, moreover, that the practice of "social," or chronological, promotions be abolished; promotion from grade to grade should be based on mastery, not age.

■ We recommend that the states and communities — specifically including educators, business and labor leaders and other interested parties — identify clearly the skills that the schools are expected to impart to students for effective employment and citizenship. The expected standards should be widely communicated so that there will be broad understanding of the mission of the schools.

■ We recommend, finally, that instititutions of higher learning ***upgrade their entrance requirements.*** This will encourage the public schools to increase both the number of core academic subjects and time spent on such subjects as requirements for graduation and entry into post-secondary education.

ACTION RECOMMENDATION 7

Improve leadership and management in the schools

■ We recommend that the school principal in each school be acknowledged as the school's leader and as the manager of its instructional program. The principal should be freed from distractions; encouraged to give priority to improving classroom instruction; given sufficient discretion over personnel and fiscal planning; and put squarely in charge of maintaining the school's morale, discipline and academic quality. This means that in many places, the prevailing definition of the principal's role must be changed to put the principal squarely in charge of educational quality in each school.

■ We recommend that pay for school principals, like that for teachers, be related to their responsibilities and their effectiveness and we believe that extraordinary rewards should be established for extraordinary performance by principals.

■ We recommend that the states establish higher standards for recruiting, training and monitoring the performance of school principals. Specifically, we urge that each state examine and improve its programs for training school principals and aspiring principals, and that effective new programs be established to train principals in effective educational management.

■ We recommend that school systems expand and improve, at every level of administration, their use of ***effective management techniques.*** Business can help here, with exchange programs and other collaborative efforts to train school managers and to keep school officials abreast of the latest techniques in fiscal and personnel management.

ACTION RECOMMENDATION 8

Serve better those students who are now unserved or underserved

■ Because the nation needs to draw upon the broadest base of talent, each state and local school system should make special efforts to increase participation by women and minority students in courses such as mathematics and science that are related to careers in which these groups are underrepresented.

■ Each state and local school system must expand its programs or develop new ones to identify academically gifted students early in their school careers and to provide a curriculum that is rigorous and enriching enough to challenge talented young people.

■ We recommend that each state and local school system — indeed, the principals, teachers and parents in each school — launch an energetic program to reduce absenteeism. We recommend further *that each* state and local community also establish broadly-based community programs to solve the dropout problem. This problem is so severe that in effect, 25 percent of all American young people are denied the opportunity for a complete education. Merely stiffening attendance requirements is not enough; efforts to deal with absenteeism and the dropout problem must also include revitalizing course materials and making educational schedules flexible enough to accomodate students who have special problems.

■ Each state and local school system should improve its programs for identifying and educating handicapped children, specifically including them in its goals of education for jobs and economic growth.

■ Since underserved students tend to be concentrated in schools with limited resources, states should continue to strengthen programs aimed at more equitable distribution of educational resources.

CHAPTER 4. THE OUTLOOK:

CAN WE SUCCEED?

"OUR YOUNG PEOPLE TODAY ARE THE HARDEST WORKING, MOST MOTIVATED GROUP WE HAVE HAD IN A LONG TIME."

The very existence of the National Task Force on Education for Economic Growth is an expression of optimism: of belief that, in spite of the problems facing our economy and our educational system, we in the United States *can* do what is necessary to improve public education across the country. We see the country's educational deficiencies as serious — even alarming — but also as amenable to positive action. We approach the task of improving quality with a sober awareness of the difficulties ahead, but also with a strong awareness of this nation's assets, its past achievements in education and economic growth, and its still-vibrant capacity to meet and master great challenges.

Our national assets are varied and impressive. We are, for all our economic problems, a rich nation. Our economy, even when plagued by recessionary chills and inflationary fever, has remained the world's strongest. Though our supremacy in technology has been severely challenged, we remain the world's leader in technological inventiveness — and there is still time to arrest the recent decline in the research and education systems which are the source of our technological creativity. Our national resources are almost staggering in their abundance. Most importantly, our people have a simple but fervent faith in the power of education to improve the quality of life for everyone; last year, they backed that faith by spending more than $250 billion on education in the United States — $120 billion of it in our public schools.

Not only are our material assets great. We Americans are committed to a set of social goals that many of our economic rivals, with their more traditional systems of caste and class, do not even aspire to, much less achieve. Our democratic creed, laid out in our founding documents, rejects all notions of caste and class; it commits us inescapably to assure "life, liberty and the pursuit of happiness" for *all* of our people.

"WE MUST STEP UP THE PACE, WE MUST FIND BETTER WAYS TO STRENGTHEN THE EDUCATION AND TRAINING OF *ALL* OUR CITIZENS."

Over the past generation in America, we have mounted a massive social and educational effort to deliver on that commitment. We have broadened access to education and improved the educational performance of large numbers of our citizens who for many years were put at a disadvantage by poverty, minority status or both. The civil-rights reforms and social legislation of the sixties — notably the Elementary and Secondary Education Act — signalled a far-reaching commitment by our nation to put old wrongs right and to educate those who once were barred from access to quality education.

We have responded, and we should be proud of what we accomplished, though we have a long way yet to go. The academic performance of minority students, as we have pointed out, improved during the seventies. Black high school students are now almost as likely as their white counterparts to graduate from high school. One third of medical students now are women.

Success is far from complete, and we cannot retreat for one minute from the commitment we have made to creating a broadly inclusive education system.

But having made substantial progress, we can now take on another task, which we must pursue alongside our pursuit of equal opportunity: the task of building quality.

Our twin goals, which we must pursue simultaneously and with equal zeal, must be ever broader access to education for all students — and access to quality as well.

Can we succeed?

In an era of general pessimism in America, it gives us pleasure to answer in the affirmative. And our answer is not based merely on faith, nor on the evidence of years past. We see real evidence today that the states and communities of our nation — those laboratories of social invention that Mr. Justice Brandeis spoke of many years ago, which give our nation so much of its vitality — have already begun taking steps to build quality into our system of public education.

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Here are only a few of the hopeful signs we see:

■ The District of Columbia school system has joined hands with businesses and trade associations to establish career-oriented high schools — non-traditional institutions which offer not only grounding in basic academic skills, but which train students for specific career fields

■ In Houston, Texas, teachers are eligible for a variety of different incentive pay awards — for volunteering to teach in problem schools, for example; for their work in reducing absenteeism, and for helping to create above-average gains in school achievement levels

■ In Charlotte, North Carolina, and surrounding Mecklenburg County, teachers and school officials are working together to design a new job structure for teachers which will feature pay incentives for outstanding performances and an evolving "career ladder" for teachers

■ Colorado has developed an evaluation device, "Indicators of Quality Schools," which local schools can use to identify their strengths and shortcomings. And this year a new evaluation instrument, "Indicators of Quality School Districts," will come into use by Colorado school districts

■ The chief state school officer of Arkansas has prepared a staff development program for teachers and principals in which teachers will train other teachers and principals will train other principals. Using the results of research into effective teaching and school leadership, the program will seek to enhance the effectiveness of teachers and develop more principals as instructional leaders

■ North Carolina has established innovative institutions for educational enrichment: The Governor's Schools of North Carolina; summer programs for gifted high school students; a special state high school concentrating on science and mathematics; and the North Carolina School of the Arts, an institution devoted to training professional artists and performers

■ Sixteen states now use competency tests as elements in their programs of teacher certification, and an additional seven states are considering adopting such tests

■ Twenty-two states have recently raised their standards and requirements for entry into teacher-training programs

■ Twenty-three states have recently launched school improvement programs

"IT'S TIME TO STOP BUILDING BARRIERS BETWEEN EDUCATION AND LABOR AND BUSINESS AND START BUILDING BRIDGES."

■ Thirty-seven states now have some form of competency testing or assessment of student achievement to measure educational effectiveness.

We know that education has deeper purposes than merely to prepare people for jobs. We are aware that to define the mission of the schools along narrowly utilitarian lines would be to misperceive the purposes of schooling. But if preparation for work is not the only aim of education, it is nonetheless a very important aim. And surely education for economic growth is a worthwhile goal around which to organize our efforts and to rally the American people in the cause of improving the nation's schools.

The stakes are high. If we fail, our children will experience a growing sense of loss and failure: a sense of falling behind that will reflect the reality of falling behind. Fortunately, however, it is within our power to succeed. And the rewards of success will be great: improved productivity; sustained economic growth; job and career opportunities for all our people; the economic wherewithal to provide adequate public services; a secure defense — and above all, the excitement and satisfaction of life in a culture whose wellsprings of creativity and accomplishment are full and flowing.

After contemplating both our national problems and our national assets, we believe that success is possible. And we believe, fervently and unanimously, that no task facing our nation matters more than to launch — now— the action plan we have set forth here.

APPENDIX:

BASIC SKILLS AND COMPETENCIES FOR PRODUCTIVE EMPLOYMENT

This list of skills developed by business representatives on the Task Force draws heavily upon work done by The Center for Public Resources and Project Equality of the College Board.

"WE NEED TO PREPARE THE NECESSARY HUMAN TALENT TO KEEP THE PEOPLE IN THE NATION RESPONSIVE TO THE VERY COMPETITIVE WORLD OF INTERNATIONAL COMMERCE AND TRADE."

READING COMPETENCIES

- The ability to identify and comprehend the main and subordinate ideas in a written work and to summarize the ideas in one's own words
- The ability to recognize different purposes and methods of writing, to identify a writer's point of view and tone, and to interpret a writer's meaning inferentially as well as literally
- The ability to vary one's reading speed and method and one's purpose for reading according to the type of material
- The ability to use the features of printed materials, such as a table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, bibliography
- The ability to define unfamiliar words by decoding, using contextual clues, or using a dictionary

WRITING COMPETENCIES

- The ability to organize, select and relate ideas and to outline and develop them in coherent paragraphs
- The ability to write Standard English sentences with correct sentence structure, verb forms, punctuation, capitalization, possessives, plural forms, other matters of mechanics, word choice and spelling
- The ability to improve one's own writing by restructuring, correcting errors and rewriting
- The ability to gather information from primary and secondary sources, to write a report using this research; to quote, paraphrase, and summarize accurately; and to cite sources properly

SPEAKING AND LISTENING COMPETENCIES

- The ability to engage critically and constructively in the exchange of ideas
- The ability to answer and ask questions coherently and concisely, and to follow spoken instructions
- The ability to identify and comprehend the main and subordinate ideas in discussions, and to report accurately what others have said
- The ability to conceive and develop ideas about a topic for the purpose of speaking to a group; to choose and organize related ideas; to present them clearly in standard English

MATHEMATICAL COMPETENCIES

- The ability to perform the computations of addition, subtraction, multiplication and division using natural numbers, fractions, decimals and integers
- The ability to make and use measurements in both traditional and metric units
- The ability to use effectively the mathematics of integers, fractions and decimals, ratios, proportions and percentages, roots and powers, algebra and geometry
- The ability to make estimates and approximations, and to judge the reasonableness of a result
- The ability to use elementary concepts of probability and statistics

SCIENTIFIC COMPETENCIES

- The ability to understand the basic principles of mechanics, physics and chemistry
- The ability to distinguish problems whose genesis is in basic mechanics, physics or chemistry
- The ability to apply basic scientific/technical solutions to appropriate problems

"WE CAN FOSTER A GREAT RENEWAL AND INVIGORATION OF OUR EDUCATION FOR THE 21ST CENTURY."

REASONING COMPETENCIES

- The ability to identify and formulate problems, as well as the ability to propose and evaluate ways to solve them
- The ability to recognize and use inductive and deductive reasoning, and to recognize fallacies in reasoning
- The ability to draw reasonable conclusions from information found in various sources, whether written, spoken, tabular or graphic, and to defend one's conclusions rationally
- The ability to comprehend, develop and use concepts and generalizations
- The ability to distinguish between fact and opinion

In addition to the above competencies identified by the Center for Public Resources, the following competencies were also felt to be important.

BASIC EMPLOYMENT

- The ability and willingness to assume the responsibility of a good citizen
- The ability to engage in interpersonal relationships
- The ability to cope with requirements concerning attendance and punctuality

ECONOMIC COMPETENCIES

- The ability to understand personal economics and its relationship to skills required for employment and promotability
- The ability to understand our basic economic system (e.g., profits, revenues, basic law of supply and demand, etc.)

COMPUTER LITERACY COMPETENCIES

- The ability to follow predefined procedures and to understand when the procedure is completed successfully and when it is not
- The ability to operate equipment that requires understanding of a predefined procedure, to know when operator action is required
- The ability to recognize when a predefined procedure is in a special state and to identify the source of assistance
- The ability to understand the basic functions of a computer device (terminal, CRT, etc.)

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